

In The Specification:

ai On page 11, after line 13, insert --Figure 6B is a schematic illustration of embossing elements formed by three-dimensional engraving methods in accordance with the present invention--.

In The Claims:

Please cancel claims 13-16, 31, 32, 44-47, and 64-67 in their entirety without prejudice nor disclaimer to the subject matter set forth therein.

Please amend the claims 1, 17, 19, 21, 22, 33, 48, 50-53, 68, and 70-72 as follows:

~~Sub 1~~  
ai 1. (Amended) In an embossing apparatus for embossing a substantially continuous web of sheet material, an embossing roll comprising:  
an elongated core having first and second ends, said elongated core being formed of a substantially rigid material[, and] ;  
an elongated sleeve having an embossing pattern formed thereon, said elongated sleeve being formed of a material which is less rigid than said core; and  
a positioning means for selectively positioning said sleeve with respect to said core, said positioning means including at least one axially extending bore and at least one radially extending passage intersecting said axially extending bore formed in said core for selectively communicating pressurized air to a surface of said core with said sleeve being formed of an

*A2*  
*Cont.*  
expandable material such that when pressurized air is passed to said surface of said core, said sleeve expands so as to be displaceable with respect to said core;

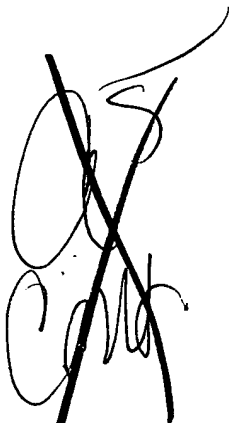
wherein said elongated sleeve is releasably secured to said core such that said elongated sleeve is axially and circumferentially fixed with respect to said core when in operation and can be selectively axially removed from said core.

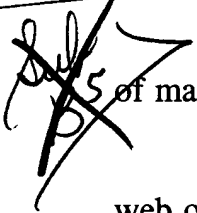
*A3*  
17. (Amended) The embossing roll as defined in claim [16] 1 further comprising a circumferential groove in a surface of said core interconnecting said at least one radially extending passage[s].

*A4*  
19. (Amended) The embossing roll as defined in claim [16] 1, wherein an inner diameter of said sleeve is substantially constant.

*A5*  
21. (Amended) The embossing roll as defined in claim [13] 1, wherein said positioning means includes a frusto-conical outer surface of said core and a substantially complimentary frusto-conical inner surface of said sleeve and fixing means for axially securing said sleeve with respect to said core such that said sleeve can be axially received over said core.


*Sub B4*  
22. (Amended) A method of forming an embossing roll for embossing a substantially continuous web of sheet material comprising:  
providing an elongated core formed of a substantially rigid material,

 positioning an elongated sleeve formed of a less rigid material over said elongated core by selectively expanding an inner surface of said sleeve with respect to said core, sliding said sleeve along said core and communicating pressurized air from a central bore of core to an outer surface of said core for forming an air cushion between said core and said sleeve; and engraving an embossing pattern in said elongated sleeve; wherein said elongated sleeve is selectively axially removable from said core.

 33. (Amended) A system for embossing a substantially continuous web of material comprising:

a supply means for supplying at least one substantially continuous web of material;

feed means for feeding said substantially continuous web of material;

 embossing means for embossing a predetermined pattern in said web material; and

a take-up means for taking-up said web material;

said embossing means comprising;

at least one elongated core formed of a substantially rigid material; and

a plurality of elongated sleeves each having an embossing pattern formed thereon;

a positioning means for selectively positioning said sleeve with respect to said core, said positioning means including at least one axially extending bore and at least one radially extending passage intersecting said

axially extending bore formed in said core for selectively communicating pressurized air to a surface of said core, said sleeve being formed of an expandable material such that when pressurized air is passed to said surface of said core, said sleeve expands so as to be displaceable with respect to said core;

wherein said plurality of elongated sleeves are interchangeable with one another with each of said plurality of elongated sleeves being selectively secured to said core in accordance with the predetermined embossing pattern formed thereon.

48. (Amended) The system as defined in claim [47] 33, further comprising a circumferential groove in a surface of said core interconnecting said at least one radially extending passage[s].

50. (Amended) The system as defined in claim [46] 33, wherein an inner diameter of said sleeve is substantially constant.

51. (Amended) The system as defined in claim [46] 33, wherein an inner surface of said sleeve adjacent respective ends of said sleeve is tapered outwardly to facilitate positioning of said sleeve on said core.

52. (Amended) The system as defined in claim [44] 33, wherein said positioning means includes a frusto-conical outer surface of said core and a substantially complimentary frusto-conical inner surface of said sleeve and fixing means for axially securing said sleeve with respect to said core such that said sleeve can be axially received over said core.

~~Sub E2~~ ~~B7~~

53. (Amended) A system for embossing a substantially continuous web of material comprising:

a supply means for supplying at least one substantially continuous web of material;

feed means for feeding said substantially continuous web of material;

embossing means for embossing a predetermined pattern in said web material; and

a take-up means for taking-up said web material;

wherein at least one roll of the system includes;

an elongated core formed of a substantially rigid material; [and]

an elongated sleeve formed of a material less rigid than said elongated core with said elongated sleeve being releasably secured to said core such that said elongated sleeve is axially and circumferentially fixed with respect to said core when in operation and can be selectively axially removed from said core[.]; and

a positioning means for selectively positioning said sleeve with respect to said core, said positioning means including at least one axially extending bore and at least one radially extending passage intersecting said axially extending bore formed in said core for selectively communicating pressurized air to a surface of said core; and

wherein said sleeve is formed of an expandable material such that when pressurized air is passed to said surface of said core, said sleeve expands so as to be displaceable with respect to said core.

~~OS~~  
~~CONF~~

68. (Amended) The system as defined in claim [67] 53, further comprising a circumferential groove in a surface of said core interconnecting said at least one radially extending passage[s].

70. (Amended) The system as defined in claim [66] 53, wherein an inner diameter of said sleeve is substantially constant.

71. (Amended) The system as defined in claim [66] 53, wherein an inner surface of said sleeve adjacent respective ends of said sleeve is tapered outwardly to facilitate positioning of said sleeve on said core.

72. (Amended) The system as defined in claim [64] 53, wherein said positioning means includes a frusto-conical outer surface of said core and a substantially complimentary frusto-conical inner surface of said sleeve and fixing means for axially securing said sleeve with respect to said core such that said sleeve can be axially received over said core.

Please add new claims 73 and 74.

-73. In an embossing apparatus for embossing a substantially continuous web of sheet material, an embossing roll comprising:

an elongated core having first and second ends, said elongated core being formed of a substantially rigid material; and  
an elongated sleeve having an embossing pattern formed thereon, said elongated sleeve being formed of a material which is less rigid than said core;

wherein said elongated sleeve is releasably secured to said core such that said elongated sleeve is axially and circumferentially fixed with respect to said core when in operation and can be selectively axially removed from said core with said embossing pattern being engraved in an outer surface of said sleeve by way of a three dimensional laser engraving including embossing elements having curvilinear side walls and spherical surfaces and multiple elevations with respect to a reference surface.

74. In an embossing apparatus for embossing a substantially continuous web of sheet material, an embossing roll comprising:

an elongated core having first and second ends, said elongated core being formed of a substantially rigid material;

an elongated sleeve having an embossing pattern formed thereon, said elongated sleeve being formed of a material which is less rigid than said core; and

and a plurality of embossing elements forming said embossing pattern, each of said embossing elements being engraved in an outer surface of said sleeve by way of a three dimensional laser engraving, said embossing elements having curvilinear side walls and spherical surfaces and multiple elevations with respect to a reference surface.--

#### REMARKS

The Examiner's *Action* dated September 11, 1997, has been received and its contents carefully noted. In view thereof, claims 13-16, 31, 32, 44-47, and 64-67 have been cancelled, claims 1, 17, 19, 21, 22, 33, 48, 50-53, 68,